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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,969	01/28/2002	Ken Saito	AETE.0003	6700

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EXAMINER
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DI GRAZIO, JEANNE A

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,969

Applicant(s)

SAITO ET AL.

Examiner

Jeanne A. Di Grazio

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6 and 18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3-6 and 18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date Oct. 05, Nov. 05  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

Art Unit: 2871

## **DETAILED ACTION**

### ***Claims***

Claims 1, 3-6, and 18 are pending with claims 2, 7-11, 16-17 and 19-20 having been cancelled per Amendment of April 25, 2005. Claims 12-15 have been cancelled per Amendment of November 10, 2005.

No claims have been amended.

### ***Priority***

Priority to Japanese Patent Application No. 2001-039522 (Feb. 16, 2001) is claimed.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) Figures 14 and 15 in view of United States Patent 5,606,438 (to Margalit et al.).

As to claim 1, APA Figures 14 and 15 illustrate the following elements: a liquid crystal display element (PNL, LC, SUB1, SUB2), a light source (BL) located right below a back surface of the liquid crystal element, a substantially rectangular diffusion plate (SCT) which is interposed between the liquid crystal display (PNL, LC, SUB1, SUB2) element and the light source (CFL), and at least one optical sheet (OPS) which is arranged between the diffusion plate (SCT) and the liquid crystal display element (PNL, LC, SUB1, SUB2), and the optical sheet (OPS) contacts the diffusion plate (SCT).

Please furthermore note that Applicant's Specification states that the backlight is a direct backlight (Specification page 3)(stating in reference to Figure 15, "[i]n the direct backlight").

APA does not appear to explicitly specify that the liquid crystal display device includes a transparent sheet which is arranged between the diffusion plate and the light source and has a contour which is substantially equal to a contour of the diffusion plate and four sides of the transparent sheet are adhered to the diffusion plate so as to define a gap therebetween that is sealed from outside air.

Margalit is drawn to a rugged liquid crystal display and method for its manufacture.

Margalit teaches that through the use of a double-sided adhesive foil, a back light diffuser (Figure 3, diffuser 42) can be adhered to a bottom polarizer (Figure 3, polarizer 34) of a liquid crystal display (Figure 3, LCD 30 and 31). Please note that the polarizer can be either transparent or transfective (Column 2, Line 65).

Given that the polarizer and diffuser are adhered via a double-sided adhesive, presumably, all four sides of the polarizer are adhered to the diffuser and thus define a gap that is sealed from outside air.

Please note that films 43 and 35 are identical (See Applicant's Remarks at page 2).

Margalit goes on to explain that the film (35) that is adhered to the LCD glass (30) is adhered onto a glass that is not exactly flat thus allowing for undulations (See Margalit at Col. 3, Lines 15-25).

Adherence of the film onto a non-flat glass necessarily produces gaps.

Furthermore, the Examiner notes that both polarizer and diffuser have the same contour (outline) from the side view of Figure 3.

Therefore, it would have been obvious to one of ordinary skill in the arts of liquid crystals, diffusers and adhesives at the time the invention was made to modify APA in view of Margalit for several reasons:

- (1) to improve upon shock resistance to the display when the display is dropped,
- (2) to provide better resistance to localized pressures,
- (3) and because the LCD is not completely flat, to allow for undulations and
- (4) to resist chemical attack (See Column 3, Lines 11-65).

Overall, use of the adhesive and bonding of the elements thereof contributes to a rugged display.

Thus, claim 1 is rejected.

As to claim 3, as noted, the transparent polarizer is adhered to the diffusion layer by a double-sided adhesive foil to resist chemical attack (Column 3, Lines 63-65).

Thus, claim 3 is rejected.

As to claim 4, as noted, the optical film contacts the diffusion plate.

Thus, claim 4 is rejected.

As to claim 18, APA Figure 14 illustrates a plurality of fluorescent lamps (CFL).

Thus, claim 18 is rejected.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) Figures 14 and 15 in view of United States Patent 5,606,438 (to Margalit et al.) and further in view of United States Patent 6,580,477 B1 (to Cho).

As to claim 5, APA Figures 14 and 15 does not appear to explicitly specify that the liquid crystal display device includes a spacer which restricts a warp quantity of the diffusion plate in the direction toward the light source.

Cho is directed to a liquid crystal display including at least two light guide plates that are arranged in parallel. In Cho, Figure 1, diffusion sheets (400) are arranged in a receiving container (300) such if the container is swayed or if the diffusion sheets expand by heat, the diffusion sheets can withstand such sway or heat expansion (Column 4, Lines 58-63).

Bosses are fitted (bosses = 260) for fixing the diffusion sheets within the receiving container and the bosses have a height that is greater than the thickness of the diffusion sheets (Column 4, Lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the arts of liquid crystals, diffusers and adhesives at the time the invention was made to modify APA in view of Cho for a boss / spacer that restricts warping of a diffusion plate for several reasons:

- (1) to enable the diffusion sheets to withstand sway and
- (2) to enable the diffusion sheets to adapt and expand when heated.

Thus, claim 5 is rejected.

As to claim 6, as previously noted, at least an optical film contacts the diffuser.

Thus, claim 6 is rejected.

***Response to Arguments***

Applicant's arguments filed November 10, 2005 have been fully considered but they are not persuasive.

Applicant's only argument is that "... [a]s such, there is no air and NO gap between polarizing plate 34 and the diffusion plate 42 ..." (Remarks at page 2).

However, as Applicant notes films 43 and 35 are identical (See Applicant's Remarks at page 2).

Margalit goes on to explain that the film that is adhered to the LCD glass is adhered onto a glass that is not exactly flat thus allowing for undulations (See Margalit at Col. 3, Lines 15-25).

Adherence of the film onto a non-flat glass necessarily produces gaps.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio  
Patent Examiner  
Art Unit 2871

JDG

  
ANDREW SCHECHTER  
PRIMARY EXAMINER